FACING CLIMATE CHALLENGES BEYOND FLOODING IN BEIRA

INACCT Resilience

CITY INFOGRAPHIC SERIES

Beira faces escalating climate risks, rising sea levels, coastal erosion, extreme weather, and dangerous temperature spikes that severely impact its environment and socio-economic fabric. The city's most vulnerable populations, particularly the 70% of Beirans living in informal settlements, are disproportionately affected, with slow recovery and limited resources.

RISING SEA LEVELS AND COASTAL EROSION

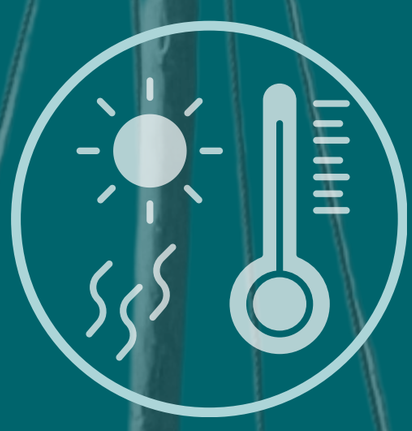
- Beira's coastline is receding at a rate of 1 m per year with some areas experiencing an average of 5 m per year. Ageing seawalls and coastal defenses expose entire neighborhoods to the risk of displacement.
- The city's ageing coastal protection infrastructure is highly degraded, leaving beaches and dunes exposed to sand depletion from currents, tides and storms. The Beira Municipal Recovery and Resilience Plan estimates a need for USD 90,850,000 investment in the city's coastal infrastructure.
- Cyclone Idai further damaged the coastal defense system. If Idai had occurred during a high spring time, flooding would have been dramatically exacerbated with storm surge combining with flooding from precipitation.
- Global sea level rise is likely to exceed half a meter by the 2090s. Global sea levels are rising at a rate of 3.3mm annually. In the Southwest Indian Ocean (SWIO) sea levels have been rising at a faster rate than the global average in the last two decades, threatening homes, livelihoods, and infrastructure.

CYCLONE IDAI'S DEVASTATION

- Over 80% of Beira was damaged by Cyclone Idai, with storm surges and 200 km/h winds causing widespread destruction. It is estimated that an additional over 16,000 people were displaced in Mozambique as result of climate change's influence on the intensification of Cyclone Idai.
- Many families still live in temporary shelters years after the disaster, with recovery hindered by a lack of financial resource.

HEATWAVES: A SILENT CRISIS

- Beira and other parts of Mozambique are experiencing an increase in the frequency, intensity and duration of heatwaves.
- Temperatures in informal settlements like Beira's can rise significantly higher than surrounding rural areas due to the urban heat island effect.
- Heatwaves contribute to health crises, especially among children and the elderly, straining already overburdened healthcare services.
- Densely populated areas in the city centre with little green space face an increased risk of heat-related illnesses. On the outskirts of Beira, informal settlements which are dispersed in farmland green space may be more resilient to heat waves.



FALTERING INFRASTRUCTURE

- Over 80% of Beira's critical infrastructure was damaged by Cyclone Idai.
- Roads, electrical grids, and drainage systems are severely aged and lack the resilience to withstand future climate impacts.
- Poor drainage leaves large sections of the city vulnerable even to minor storms.

PRIORITIES FOR BUILDING URBAN RESILIENCE

Climate-resilient infrastructure: Upgrading seawalls, drainage systems, and energy grids to better withstand climate shocks.

Community-centered planning: Engaging residents ensures that resilience strategies reflect local needs and knowledge.

Green spaces and sustainability: Sustainable land use and urban green spaces mitigate climate impacts and enhance biodiversity.

Education and awareness: Empowering communities to respond effectively to climate risks.

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